February 3, 2004

Mr. Kenneth Rhame
On-Scene Coordinator
Emergency Response Branch
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Subject: **Final Letter Report**
Spies Field Site
Menominee, Menominee County, Michigan
Technical Direction Document No. S05-0309-010
Tetra Tech Contract No. 68-W-00-129

Dear Mr. Rhame:

T N & Associates, Inc. (TN&A), a subcontractor for the Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START), was tasked by the U.S. Environmental Protection Agency (U.S. EPA) to conduct a removal assessment at the Spies Field site in Menominee, Michigan, under Technical Direction Document (TDD) No. S05-0309-010. As part of the removal assessment activities, START was tasked to prepare a health and safety plan and a sampling plan, conduct soil and surface water sampling, document on-site conditions with written logbook notes and photographs using a still camera, validate analytical data, and prepare a removal assessment letter report.

The removal assessment was performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) as documented in Title 40 of the *Code of Federal Regulations* (CFR), Section 300.415(b)(2), to evaluate site conditions and possible threats to human health, public welfare, and the environment. This removal assessment report describes the site, summarizes site background information, describes removal assessment activities, identifies potential site-related threats, and summarizes the removal assessment.

Site Description

The Spies Field site is located on the south side of Spies Athletic Field in Menominee, Menominee County, Michigan, and covers an approximate area of 2.72 acres (see Figure 1 in Attachment C). The Spies Field site is bounded on the north by Spies Athletic Field, on the east by Linder and Sorenson Body Shop on 10th Street, on the south by a vacant parcel of land, and on the west by Krygoski Construction. An air-cooled engines business is located southwest of the site and the vacant parcel. Access to the site is via 26th Avenue and the vacant parcel of land.

The geographic coordinates of the site are latitude 45° 04' 46" north and longitude 87° 39' 29" west. The site is an open lot consisting of wooded and marshland areas. The site has been vacant for approximately 20 years, but was formerly occupied by a wood products facility. The site is located in a predominately commercial and undeveloped area.

Site Background

The City of Menominee purchased the site in March 2002 as part of a plan to expand Spies Athletic Field, a sports recreation facility. Before purchasing the property, the City of Menominee contracted STS Consultants, Ltd. (STS), to conduct a Phase I Environmental Site Assessment (ESA) at the site. The Phase I ESA concluded that no reportable environmental conditions were associated with the site.

During June 2003, Mr. Dale Pape, who lives near the site, contacted the City of Menominee and reported the presence of two drums in a wooded area on the site. He collected two surface water samples, one sample of solid material, and one soil sample from the site and sent the samples to a laboratory for analysis. Analytical results for the solid material and soil sample showed total lead concentrations ranging from 39,000 to 77,000 milligrams per kilogram (mg/kg) and chromium concentrations ranging from 12,000 to 52,000 mg/kg. He shared this information with the City of Menominee and expressed concerns regarding the high concentrations of contaminants in the soil.

The City of Menominee, in response to the concerns raised by Mr. Pape, contracted STS to conduct a site assessment. On June 20, 2003, STS conducted a site assessment that involved advancement of nine soil borings and collection of 12 soil samples from the site. Analytical results for the samples collected from the southwest portion of the site showed elevated concentrations of total lead and chromium ranging from 1.8 to 160,000 mg/kg and 3.6 to 52,000 mg/kg, respectively.

On July 1 and 17, 2003, STS conducted additional site assessment activities at the site. The site assessment activities involved the advancement of three soil borings and the collection of 12 soil samples from the southwest portion of the site. Analytical results showed elevated concentrations of total lead and chromium ranging from 60 to 60,000 mg/kg and 6,800 to 55,000 mg/kg, respectively. During July 2003, Onyx Environmental Services (Onyx), on behalf of the City of Menominee removed six drums containing hazardous waste from the site for landfill disposal.

Analytical data for soil samples collected at the site by Mr. Pape and STS showed elevated levels of lead and chromium. Due to limited resources to address the environmental concerns at the site, the City of Menominee formally requested on September 4, 2003, that U.S. EPA assist with a removal assessment and mitigate immediate threats posed by the contaminated soils at the site.

Removal Assessment Activities

The removal assessment activities included site reconnaissance and sampling activities. START prepared a site sampling and analysis plan (SAP) and implemented it during this assessment. The SAP required collection of soil samples based on a 50-foot by 50-foot sampling grid; the samples were analyzed for volatile organic compounds (VOC), Resource Conservation and Recovery Act (RCRA) total metals, and toxicity characteristic leaching procedure (TCLP) lead and chromium metals.

On October 14, 2003, U.S. EPA On-Scene Coordinator (OSC) Kenneth Rhame and START conducted an on-site reconnaissance to document site conditions and determine potential sampling locations.

The sampling grid was established and surveyed by the City of Menominee. The grid nodes were labeled 1 through 5 in the west-east direction and A through D in the south-north direction, with the origin at the southwest corner of the site. START collected surface soil samples from 0 to 6 inches below ground surface (bgs). Soil sample A2 HA-6 was collected from grid A2 at the historical sampling location HA-6. The sample and the area from where this sample was collected showed yellow and green soil discoloration. The discolored soil was observed in an area measuring approximately 40 feet by 40 feet and extending east from sampling location A2-HA6. START then collected one soil sample each from the remainder of the 11 grids. START also collected a surface water sample from the wetlands in the northwest part of A2 grid.

As part of the quality assurance and quality control (QA/QC) program, two duplicate soil samples, one duplicate surface water sample, and one matrix spike/matrix spike duplicate (MS/MSD) sample were also collected. Sample A2-2 was the duplicate of sample A2-HA6, sample C1-2 was the duplicate of sample C1-1, and surface water sample W-2 was the duplicate of sample W-1. At each sampling location, dedicated sampling equipment was used to collect soil and surface water samples, and the sampler donned new Nitrile gloves for each sample collection. At the conclusion of sampling activities, personal protective equipment (PPE) was double bagged and given to the City of Menominee for disposal. The soil and surface samples were preserved with ice, packaged and hand delivered under chain-of-custody documentation to Great Lakes Analytical, Inc. (GLA), in Buffalo Grove, Illinois. Soil samples A1-1, A2-HA6, A2-2, A2-3, A3-1, A4-1, B1-1, B2-1, B3-1, B4-1, C1-1, C1-2, C2-1, C3-1, and C4-1 were analyzed for eight RCRA total metals and TCLP lead and chromium. In addition, soil samples A1-1, A2-HA6, A2-2, B3-1, and B4-1 and surface water samples W-1 and W-2 were analyzed for VOCs. Site features and sampling locations were photographed by START (see Attachment A) and sampling locations were surveyed by the City of Menominee (see Figure 2, Attachment C). Analytical data was validated by START and approved for use with assigned qualifiers (see Attachment B).

Chromium and lead were the most prevalent contaminants detected in site soil samples. Analytical results for soil samples indicated concentrations of total barium, cadmium, chromium, and lead ranging from 49.3 to 3,750, 0.985 to 51.6, 10.1 to 9,820, and 15.9 to 47,400 mg/kg, respectively. TCLP chromium and lead concentrations ranged from 0.01 to 3.68 milligrams per liter (mg/L) and 0.01 to 0.6 mg/L, respectively. The maximum concentrations of total lead and

chromium were detected in soil sample A2-HA6.

START, after consulting with U.S. EPA, shipped sample A2-HA6 to Severn Trent Laboratories (STL) in University Park, Illinois for chromium and lead re-analysis. The STL results indicated a total chromium concentration of 7,600 mg/kg, TCLP chromium of 5.1 mg/L, total lead of 23,000 mg/kg, and TCLP lead of 0.43 mg/L.

Potential Site-Related Threats

TCLP lead and chromium analytical results for soil samples collected by START were compared to maximum concentrations of contaminants pursuant to 40 CFR, Section 261.24, Table 1, "Maximum Concentration of Contaminants for the Toxicity Characteristic." The concentration of TCLP chromium was 5.1 mg/L in soil sample A2-HA6, which exceeded the maximum concentration for chromium of 5.0 mg/L.

Exposure to high levels of hexavalent chromium can damage the nose and cause cancer. Severe dermatitis and skin ulcers can result from contact with chromium salts. When inhaled, chromium (VI) is a respiratory tract irritant and causes pulmonary sensitization; chronic inhalation increases the risk of lung cancer.

Lead, which was detected in soil samples at concentrations ranging from 15.9 to 47,400 mg/kg, can be inhaled on dust, and ingested in contaminated foods, and contaminated water. Lead can damage the nervous system, kidneys, and reproductive system. Exposure to high levels can result in neurological effects, brittle hair, and deformed nails. Occupational inhalation exposure may cause dizziness, fatigue, irritation of mucous membranes, and respiratory effects.

Based on NCP Section 300.415, U.S. EPA may take removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate a release or potential release that poses a threat to the public health or welfare of the United States or the environment. Section 300.415(b)(2) of the NCP lists factors to be considered when determining the appropriateness of a removal action. Such factors at the Spies Field site are discussed below. Potential site-related threats were evaluated in relation to human exposure route-specific values for each contaminant.

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate: Analytical results for soil samples collected during this investigation showed the presence of elevated concentrations of total lead and chromium. The City of Menominee plans to expand a sports recreation facility, and these surface soils pose a direct contact threat to children playing at the site.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released: Analytical results for soil samples collected during this investigation showed the presence of elevated concentrations of total lead and chromium. Surface soils contaminated with lead and chromium could potentially be transported via runoff to nearby marshland areas.

The availability of other appropriate federal or state response mechanisms to respond to the release: Due to limited resources available to address the environmental concerns at the site, the City of Menominee formally requested in a letter dated September 4, 2003, that U.S. EPA assist with a removal assessment to mitigate the immediate threat posed by the contaminated soils at the site.

Summary

On October 14, 2003, U.S. EPA and START conducted removal assessment activities at the Spies Field site in Menominee, Michigan. Removal assessment activities included a site reconnaissance and collection of 14 soil samples, one surface water sample, and three duplicate samples. Soil samples A1-1, A2-HA6, A2-2, B3-1, and B4-1 were analyzed for eight RCRA total metals, TCLP lead and chromium, and VOCs; soil samples A2-3, A3-1, A4-1, B1-1, B2-1, C1-1, C1-2 (duplicate), C2-1, C3-1, and C4-1 were analyzed for eight RCRA total metals and TCLP lead and chromium; and surface water samples W-1 and W-2 (duplicate) were analyzed for VOCs only. The concentrations of site contaminants were compared to concentrations summarized in "Maximum Concentration of Contaminants for the Toxicity Characteristic", 40 CFR, Part 261.24, Table 1. The concentration of TCLP chromium was 5.1 mg/L in soil sample A2-HA6, which exceeded the maximum concentration of 5.0 mg/L in 40 CFR, Section 261.24, Table 1. Based on these results, the site meets the requirements for a potential removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate a release or threat of release.

Sincerely,

Raghu Nagam

Raghu Nagam
TN&A START Project Manager

Attachment	A	Photographic Log
Attachment	B	Validated Analytical Data Package
Attachment	C	Figures

cc: Lorraine Kosik, START Project Officer
Thomas Kouris, START Program Manager

ATTACHMENT A

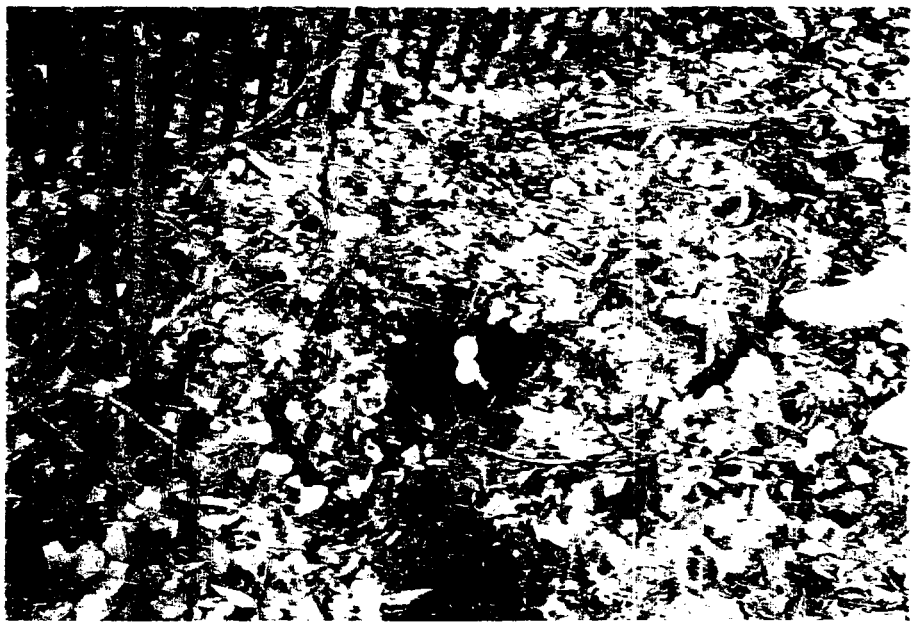
PHOTOGRAPHIC LOG

(7 pages)

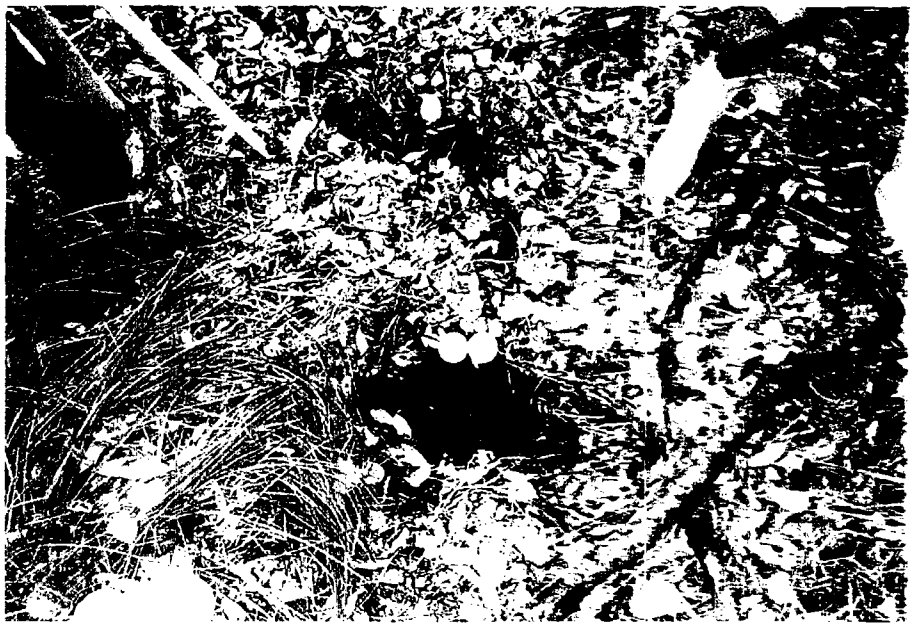
Photograph No.: 1 **Orientation**: NA
TDD Number: S05-0309-010 **Date**: Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name**: Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: View of yellow- and green-colored soil area

Photograph No.: 2 **Orientation**: NA
TDD Number: S05-0309-010 **Date**: Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name**: Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: Soil sampling location A2-HA6

Photograph No.: 3 **Orientation:** NA
TDD Number: S05-0309-010 **Date:** Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name:** Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: Soil sampling location A2-3



Photograph No.: 4 **Orientation:** NA
TDD Number: S05-0309-010 **Date:** Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name:** Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: Soil sampling location A3-1



Photograph No.:	5	**Orientation:**	NA
TDD Number:	S05-0309-010	**Date:**	Tuesday, October 14, 2003
Photographer:	Raghu Nagam, START	**Site Name:**	Spies Field Site
Location:	Menominee, Menominee County, Michigan		
Subject:	Soil sampling location A4-1		

Photograph No.:	6	**Orientation:**	NA
TDD Number:	S05-0309-010	**Date:**	Tuesday, October 14, 2003
Photographer:	Raghu Nagam, START	**Site Name:**	Spies Field Site
Location:	Menominee, Menominee County, Michigan		
Subject:	Soil sampling location B4-1		

Photograph No.:	7	**Orientation:**	NA
TDD Number:	S05-0309-010	**Date:**	Tuesday, October 14, 2003
Photographer:	Raghu Nagam, START	**Site Name:**	Spies Field Site
Location:	Menominee, Menominee County, Michigan		
Subject:	Soil sampling location C4-1		

Photograph No.:	8	**Orientation:**	NA
TDD Number:	S05-0309-010	**Date:**	Tuesday, October 14, 2003
Photographer:	Raghu Nagam, START	**Site Name:**	Spies Field Site
Location:	Menominee, Menominee County, Michigan		
Subject:	Soil sampling location B3-1		

Photograph No.: 9 **Orientation:** NA
TDD Number: S05-0309-010 **Date:** Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name:** Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: Soil sampling location C3-1

Photograph No.: 10 **Orientation:** NA
TDD Number: S05-0309-010 **Date:** Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name:** Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: Soil sampling location C2-1

Photograph No.: 11 **Orientation:** NA
TDD Number: S05-0309-010 **Date:** Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name:** Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: Soil sampling location B2-1

Photograph No.: 12 **Orientation:**
TDD Number: S05-0309-010 **Date:** Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name:** Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: Soil sampling location C1-1

Photograph No.: 13 **Orientation:** NA
TDD Number: S05-0309-010 **Date:** Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name:** Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: Soil sampling location B1-1

Photograph No.: 14 **Orientation:** NA
TDD Number: S05-0309-010 **Date:** Tuesday, October 14, 2003
Photographer: Raghu Nagam, START **Site Name:** Spies Field Site
Location: Menominee, Menominee County, Michigan
Subject: Soil sampling location A1-1

ATTACHMENT B

VALIDATED ANALYTICAL DATA PACKAGE

(33 sheets)

Tetra Tech EM Inc.

200 E. Randolph Drive, Suite 4700 ◆ Chicago, IL 60601 ◆ (312) 856-8700 ◆ FAX (312) 938-0118

MEMORANDUM

Date: December 4, 2003

To: Raghu Nagam, Project Manager, TN & Associates, Inc.
Superfund Technical Assessment and Response Team (START) for Region 5

From: Harry Ellis, Chemist, Tetra Tech EM Inc. (Tetra Tech) START for Region 5

Subject: Data Validation for
Spies Field Site
Menominee, Michigan
Analytical Technical Direction Document (TDD) No. S05-0309-011
Project TDD No. S05-0309-010

Laboratory: Great Lakes Analytical (GLA), Buffalo Grove, Illinois
Work Order No. B310298
Volatile Organic Compound (VOC) Analyses of 5 Soil and 2 Water Samples and Toxicity Characteristic Leaching Procedure (TCLP) Metals and Total Metals Analyses of 15 Soil Samples

1.0 INTRODUCTION

The Tetra Tech START for Region 5 validated VOC, TCLP metals (chromium and lead only), and total metals (mercury, arsenic, barium, cadmium, chromium, lead, selenium, and silver) analytical data for 15 soil and 2 water samples collected on October 14, 2003, at the Spies Field site in Menominee, Michigan, during a removal site evaluation. The samples were analyzed under the above-referenced work order by GLA using U.S. Environmental Protection Agency (U.S. EPA) SW-846 Method 8260B for VOC analyses; U.S. EPA SW-846 Method 1311 for TCLP extraction; and U.S. EPA SW-846 Methods 6010B, 7421, and 7471A for metal analyses. Five soil samples received all analyses. The other 10 soil samples received the TCLP metals and total metals analyses only, and the water samples (trip blanks) received VOC analysis only. After completing its analyses, GLA sent a portion of one soil sample (A2-HA6) to Severn Trent Laboratories (STL) of University Park, Illinois, for verification analyses for TCLP metals and total metals results. The results of STL's analyses are discussed in a separate memorandum.

The data were validated in general accordance with U.S. EPA's "Contract Laboratory Program National Functional Guidelines for Organic Data Review" dated October 1999 and "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated July 2002. Organic data validation consisted of a review of the following quality control (QC) parameters: holding times, instrument performance checks, initial and continuing calibrations, blank results, surrogate recovery results, matrix spike and matrix spike duplicate (MS/MSD) results, laboratory control sample (LCS) results, internal standard (IS) area counts, and target compound identification and quantitation. Inorganic data validation consisted of a review of the following QC parameters: holding times, initial and continuing calibrations, blank results, inductively coupled plasma (ICP) interference check sample results, LCS results, duplicate sample results, MS/MSD results, and sample result quantitation.

Section 2.0 discusses the results of the organic data validation, Section 3.0 discusses the results of the inorganic data validation, and Section 4.0 presents an overall assessment of the data. The attachment to this memorandum contains GLA's summary of analytical results as well as START's handwritten data qualifications where warranted.

2.0 ORGANIC DATA VALIDATION RESULTS

The results of START's organic data validation are summarized below in terms of the QC parameters reviewed. The data qualifiers listed below were applied to the sample analytical results where warranted (see the attachment).

- J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.
- UJ - The analyte was not detected. The reported sample quantitation limit is considered estimated for QC reasons.

2.1 HOLDING TIMES

All samples were analyzed for VOCs within the holding time limit of 14 days.

2.2 INSTRUMENT PERFORMANCE CHECKS

The instrument performance checks with bromofluorobenzene were performed as required for the VOC analysis. All results were within QC limits.

2.3 INITIAL AND CONTINUING CALIBRATIONS

Most initial calibration results were within the QC limits, which required a percent relative standard deviation (%RSD) of 30 percent or less for each relative response factor (RRF) and an average RRF of 0.05 or greater. Some compounds exhibited excessive %RSDs; however, the calibration factors for these compounds met the alternative QC limit of a correlation coefficient of 0.99 or greater. No qualifications were warranted.

The results for the continuing calibration standards were generally within the QC limit of less than or equal to 25 percent difference between the mean RRF of the initial calibration curve and the RRF of the continuing calibration. The continuing calibration exhibited excessive percent differences from the initial calibration for bromomethane; chloroethane; acetone; carbon disulfide; methylene chloride; vinyl acetate; 2-butanone; carbon tetrachloride; 4-methyl-2-pentanone; 1,3-dichloropropene; and 2-hexanone. Sample results for these compounds are flagged "J" or "UJ," as appropriate, to indicate that they are estimated.

2.4 BLANK RESULTS

Method blanks were run during the analyses and did not contain detectable concentrations of analytes. The two trip blanks contained low levels of styrene and toluene. The similar concentration of toluene in

sample A2-HA6 was flagged "UJ" to indicate that it probably resulted from handling and that the quantiation limit is estimated due to internal standards not meeting QC limits as described in Section 2.8. The much higher concentration of toluene in sample B4-1 did not require qualification.

2.5 SURROGATE RECOVERY RESULTS

All surrogate recovery results were within QC limits.

2.6 MS/MSD RESULTS

MS and MSD samples were analyzed using water sample W-1 (trip blank), and all results were within the laboratory-established QC limits. Duplicate solid LCS analyses provided precision and accuracy data for the soil analyses, so no qualifications are warranted for the lack of soil MS/MSD analyses.

2.7 LCS RESULTS

Almost all LCS and LCS duplicate results were within their laboratory-established QC limits. The exception was 1,3-dichloropropene, whose recovery exceeded the QC limits. Because 1,3-dichloropropene was not detected in any of the samples, no qualifications are warranted.

2.8 IS AREA COUNTS

Most IS area counts were within the QC range of 50 to 200 percent of the area counts for the associated continuing calibration standards. Samples A2-HA6 and B3-1 had low area counts for the last of the three ISs used in this analysis. Sample A1-1 had low area counts for all three ISs. When samples A2-HA6, B3-1, and A1-1 were reanalyzed by the medium-level procedure, all ISs had acceptable area counts but the sample quantitation limits increased 50-fold. The attached results are from the low level-procedure. All compound results in these three samples that were quantitated against the aberrant ISs were flagged "J" or "UJ", as appropriate, to indicate that the results are considered estimated.

All retention times were within the QC limits of plus or minus 30 seconds of the retention times for the continuing calibration standards, so no further qualifications are warranted.

2.9 TARGET COMPOUND IDENTIFICATION AND QUANTITATION

Target compound identifications were acceptable. Calculations were spot checked and found to be correct. When samples A2-HA6 and A2-2 were analyzed using the low-level procedure, the acetone concentrations exceeded the calibration range. The extrapolated acetone results were flagged "J" to indicate that they are estimated.

3.0 INORGANIC DATA VALIDATION RESULTS

The results of START's inorganic data validation are summarized below in terms of the QC parameters reviewed. The data qualifier listed below was applied to the sample analytical results where warranted (see the attachment).

- U - The analyte was not detected. The reported numerical value is the sample quantitation limit.

3.1 HOLDING TIMES

The samples were analyzed for mercury within the holding time limit of 28 days and for other metals within the holding time limit of 6 months.

3.2 INITIAL AND CONTINUING CALIBRATIONS

During the initial calibrations for the metal analyses, recoveries were within the QC limits of 90 to 110 percent for metals (and 80 to 120 percent for mercury). The continuing calibration recoveries were also within the QC limits of 90 to 110 percent for metals (and 80 to 120 percent for mercury).

3.3 BLANK RESULTS

Appropriate blanks, such as initial calibration blanks, continuing calibration blanks, and method blanks, were run during the metal analyses. Trace concentrations of some metals were detected in some blanks. In the total metals analyses, metals concentrations in the blanks were either not detected in the investigative samples (as with selenium) or present at concentrations much higher than the blank concentrations (as with lead). No qualifications are therefore warranted.

In the TCLP metals analyses, the concentration of chromium in sample B4-1 was similar to its concentration in an accompanying blank, so the chromium result for sample B4-1 is flagged "U" to indicate that it is probably a laboratory artifact.

3.4 ICP INTERFERENCE CHECK SAMPLE RESULTS

ICP interference check samples were analyzed at the start and end of each analytical run. The results for these samples were within the QC limits of 80 to 120 percent.

3.5 LCS RESULTS

An LCS was analyzed during each metals analysis. All LCS results were within the QC limits.

3.6 DUPLICATE SAMPLE RESULTS

No duplicate sample analyses were performed. The duplicate metals MS analyses displayed acceptable precision, so no qualifications are warranted for the lack of metals duplicate analyses.

3.7 MS/MSD RESULTS

MS/MSD samples were analyzed during the metals analyses using a sample from another site for mercury and sample A1-1 for the total and TCLP metals analyses. The mercury results are unusable because the sample contained a much higher mercury concentration than the spike and because the sample came from another site. The other total and TCLP metals MS/MSD results were within the laboratory-established QC limits.

3.8 SAMPLE RESULT QUANTITATION

One sample result from each analysis was checked and found to be calculated correctly.

4.0 OVERALL ASSESSMENT OF DATA

Overall, the analytical data generated by GLA are acceptable for use as qualified.

ATTACHMENT

GLA SUMMARY OF ANALYTICAL RESULTS

(19 Sheets)

GREAT LAKES ANALYTICAL
1380 Busch Parkway
Buffalo Grove, Illinois 60089
Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Total Metals by EPA 6000/7000 Series Methods

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A2-HA6 (B310298-01) Soil Sampled: 10/14/03 10:50 Received: 10/15/03 12:15									
Mercury	**0.107**	0.0415	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	2.90	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**2680**	610	"	21	"	"	"	"	
Cadmium	**51.6**	0.581	"	1	"	"	"	"	
Chromium	**8740**	12.2	"	21	"	"	"	"	
Lead	**39900**	233	"	201	"	"	"	"	
Selénium	ND	2.90	"	1	"	"	"	"	
Silver	ND	2.90	"	"	"	"	"	"	
A2-2 (B310298-02) Soil Sampled: 10/14/03 10:55 Received: 10/15/03 12:15									
Mercury	**0.121**	0.0500	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	3.12	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**1490**	656	"	21	"	"	"	"	
Cadmium	**49.1**	0.624	"	1	"	"	"	"	
Chromium	**4850**	13.1	"	21	"	"	"	"	
Lead	**47400**	251	"	201	"	"	"	"	
Selenium	ND	3.12	"	1	"	"	"	"	
Silver	ND	3.12	"	"	"	"	"	"	
A2-3 (B310298-03) Soil Sampled: 10/14/03 11:10 Received: 10/15/03 12:15									
Mercury	**0.177**	0.0594	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	3.71	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**3750**	780	"	21	"	"	"	"	
Cadmium	**13.5**	0.743	"	1	"	"	"	"	
Chromium	**9820**	15.6	"	21	"	"	"	"	
Lead	**39200**	150	"	101	"	"	"	"	
Selenium	ND	3.71	"	1	"	"	"	"	
Silver	ND	3.71	"	"	"	"	"	"	

Great Lakes Analytical--Buffalo Grove

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andy Johnson

Andy Johnson, Project Manager

GREAT LAKES ANALYTICAL
1380 Busch Parkway
Buffalo Grove, Illinois 60089
Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Total Metals by EPA 6000/7000 Series Methods

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A3-1 (B310298-04) Soil Sampled: 10/14/03 11:20 Received: 10/15/03 12:15									
Mercury	**0.260**	0.116	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	7.28	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**111**	72.8	"	"	"	"	"	"	
Cadmium	**7.64**	1.46	"	"	"	"	"	"	
Chromium	**487**	1.46	"	"	"	"	"	"	
Lead	**136**	2.91	"	"	"	"	"	"	
Selenium	ND	7.28	"	"	"	"	"	"	
Silver	ND	7.28	"	"	"	"	"	"	
A4-1 (B310298-05) Soil Sampled: 10/14/03 11:35 Received: 10/15/03 12:15									
Mercury	**0.320**	0.103	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	7.20	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**194**	72.0	"	"	"	"	"	"	
Cadmium	**9.03**	1.44	"	"	"	"	"	"	
Chromium	**142**	1.44	"	"	"	"	"	"	
Lead	**172**	2.88	"	"	"	"	"	"	
Selenium	ND	7.20	"	"	"	"	"	"	
Silver	ND	7.20	"	"	"	"	"	"	
B4-1 (B310298-06) Soil Sampled: 10/14/03 11:45 Received: 10/15/03 12:15									
Mercury	**0.312**	0.148	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	10.9	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**237**	109	"	"	"	"	"	"	
Cadmium	**8.41**	2.19	"	"	"	"	"	"	
Chromium	**497**	2.19	"	"	"	"	"	"	
Lead	**151**	4.38	"	"	"	"	"	"	
Selenium	ND	10.9	"	"	"	"	"	"	
Silver	ND	10.9	"	"	"	"	"	"	

Great Lakes Analytical--Buffalo Grove

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Andy Johnson, Project Manager

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Total Metals by EPA 6000/7000 Series Methods

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C4-1 (B310298-07) Soil Sampled: 10/14/03 12:20 Received: 10/15/03 12:15									
Mercury	**0.0871**	0.0680	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	4.93	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	ND	49.3	"	"	"	"	"	"	
Cadmium	ND	0.985	"	"	"	"	"	"	
Chromium	**13.8**	0.985	"	"	"	"	"	"	
Lead	**97.6**	1.97	"	"	"	"	"	"	
Selenium	ND	4.93	"	"	"	"	"	"	
Silver	ND	4.93	"	"	"	"	"	"	
B3-1 (B310298-08) Soil Sampled: 10/14/03 12:40 Received: 10/15/03 12:15									
Mercury	**0.308**	0.172	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	12.7	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**477**	127	"	"	"	"	"	"	
Cadmium	**40.3**	2.54	"	"	"	"	"	"	
Chromium	**897**	2.54	"	"	"	"	"	"	
Lead	**178**	5.08	"	"	"	"	"	"	
Selenium	ND	12.7	"	"	"	"	"	"	
Silver	ND	12.7	"	"	"	"	"	"	
C3-1 (B310298-09) Soil Sampled: 10/14/03 13:00 Received: 10/15/03 12:15									
Mercury	**0.315**	0.239	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	17.3	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**298**	173	"	"	"	"	"	"	
Cadmium	ND	3.46	"	"	"	"	"	"	
Chromium	**31.3**	3.46	"	"	"	"	"	"	
Lead	**141**	6.92	"	"	"	"	"	"	
Selenium	ND	17.3	"	"	"	"	"	"	
Silver	ND	17.3	"	"	"	"	"	"	

Great Lakes Analytical--Buffalo Grove

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Total Metals by EPA 6000/7000 Series Methods

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C2-1 (B310298-10) Soil Sampled: 10/14/03 13:20 Received: 10/15/03 12:15									
Mercury	**0.193**	0.141	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	10.4	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**229**	104	"	"	"	"	"	"	
Cadmium	ND	2.08	"	"	"	"	"	"	
Chromium	**19.6**	2.08	"	"	"	"	"	"	
Lead	**155**	4.17	"	"	"	"	"	"	
Selenium	ND	10.4	"	"	"	"	"	"	
Silver	ND	10.4	"	"	"	"	"	"	
B2-1 (B310298-11) Soil Sampled: 10/14/03 13:25 Received: 10/15/03 12:15									
Mercury	**0.532**	0.243	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	15.2	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	ND	152	"	"	"	"	"	"	
Cadmium	ND	3.03	"	"	"	"	"	"	
Chromium	**75.0**	3.03	"	"	"	"	"	"	
Lead	**236**	6.07	"	"	"	"	"	"	
Selenium	ND	15.2	"	"	"	"	"	"	
Silver	ND	15.2	"	"	"	"	"	"	
C1-1 (B310298-12) Soil Sampled: 10/14/03 13:30 Received: 10/15/03 12:15									
Mercury	**0.310**	0.193	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	12.0	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**209**	120	"	"	"	"	"	"	
Cadmium	ND	2.41	"	"	"	"	"	"	
Chromium	**39.2**	2.41	"	"	"	"	"	"	
Lead	**191**	4.81	"	"	"	"	"	"	
Selenium	ND	12.0	"	"	"	"	"	"	
Silver	ND	12.0	"	"	"	"	"	"	

Great Lakes Analytical--Buffalo Grove

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Total Metals by EPA 6000/7000 Series Methods

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C1-2 (B310298-13) Soil Sampled: 10/14/03 13:35 Received: 10/15/03 12:15									
Mercury	ND	0.137	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	8.55	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**109**	85.5	"	"	"	"	"	"	
Cadmium	ND	1.71	"	"	"	"	"	"	
Chromium	**20.5**	1.71	"	"	"	"	"	"	
Lead	**115**	3.42	"	"	"	"	"	"	
Selenium	ND	8.55	"	"	"	"	"	"	
Silver	ND	8.55	"	"	"	"	"	"	
B1-1 (B310298-14) Soil Sampled: 10/14/03 13:40 Received: 10/15/03 12:15									
Mercury	**0.305**	0.212	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	13.3	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	**133**	133	"	"	"	"	"	"	
Cadmium	ND	2.65	"	"	"	"	"	"	
Chromium	**47.8**	2.65	"	"	"	"	"	"	
Lead	**203**	5.30	"	"	"	"	"	"	
Selenium	ND	13.3	"	"	"	"	"	"	
Silver	ND	13.3	"	"	"	"	"	"	
A1-1 (B310298-15) Soil Sampled: 10/14/03 13:50 Received: 10/15/03 12:15									
Mercury	ND	0.0614	mg/kg dry	1	3100430	10/16/03	10/17/03	EPA 7471A	QC
Arsenic	ND	3.84	"	"	3100473	10/17/03	10/21/03	EPA 6010B	
Barium	ND	38.4	"	"	"	"	"	"	
Cadmium	ND	0.768	"	"	"	"	"	"	
Chromium	**10.1**	0.768	"	"	"	"	"	"	
Lead	**15.9**	1.54	"	"	"	"	"	"	
Selenium	ND	3.84	"	"	"	"	"	"	
Silver	ND	3.84	"	"	"	"	"	"	

Great Lakes Analytical--Buffalo Grove

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago IL, 60601	Project Manager: Anne Troup	11/12/03 14:35

TCLP Metals by EPA 1311/6000/7000 Series Methods

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A2-HA6 (B310298-01) Soil Sampled: 10/14/03 10:50 Received: 10/15/03 12:15									
Chromium	**3.68**	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	
Lead	**0.607**	0.00500	"	"	"	"	10/17/03	EPA 7421	
A2-2 (B310298-02) Soil Sampled: 10/14/03 10:55 Received: 10/15/03 12:15									
Chromium	**3.31**	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	G13
Lead	**0.714**	0.00500	"	"	"	"	10/17/03	EPA 7421	
A2-3 (B310298-03) Soil Sampled: 10/14/03 11:10 Received: 10/15/03 12:15									
Chromium	**2.72**	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	G13
Lead	**0.444**	0.00500	"	"	"	"	10/17/03	EPA 7421	
A3-1 (B310298-04) Soil Sampled: 10/14/03 11:20 Received: 10/15/03 12:15									
Chromium	**0.0202**	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	G13
Lead	**0.0121**	0.00500	"	"	"	"	10/17/03	EPA 7421	
A4-1 (B310298-05) Soil Sampled: 10/14/03 11:35 Received: 10/15/03 12:15									
Chromium	ND	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	G13
Lead	**0.0114**	0.00500	"	"	"	"	10/17/03	EPA 7421	
B4-1 (B310298-06) Soil Sampled: 10/14/03 11:45 Received: 10/15/03 12:15									
Chromium	**0.0134** U	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	G13
Lead	**0.0151**	0.00500	"	"	"	"	10/17/03	EPA 7421	
C4-1 (B310298-07) Soil Sampled: 10/14/03 12:20 Received: 10/15/03 12:15									
Chromium	ND	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	G13
Lead	**0.0104**	0.00500	"	"	"	"	10/17/03	EPA 7421	

J.H. 12-2-03

Great Lakes Analytical--Buffalo Grove

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago IL, 60601	Project Manager: Anne Troup	11/12/03 14:35

TCLP Metals by EPA 1311/6000/7000 Series Methods

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B3-1 (B310298-08) Soil Sampled: 10/14/03 12:40 Received: 10/15/03 12:15									
Chromium	**0.0379**	0.0100	mg/l	1	3100442	10/17/03	10/21/03	EPA 6010B	G13
Lead	**0.0149**	0.00500	"	"	"	"	10/17/03	EPA 7421	
C3-1 (B310298-09) Soil Sampled: 10/14/03 13:00 Received: 10/15/03 12:15									
Chromium	ND	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	G13
Lead	**0.0325**	0.00500	"	"	"	"	10/17/03	EPA 7421	
C2-1 (B310298-10) Soil Sampled: 10/14/03 13:20 Received: 10/15/03 12:15									
Chromium	ND	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	
Lead	**0.0404**	0.00500	"	"	"	"	10/17/03	EPA 7421	
B2-1 (B310298-11) Soil Sampled: 10/14/03 13:25 Received: 10/15/03 12:15									
Chromium	ND	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	G13
Lead	**0.0229**	0.00500	"	"	"	"	10/17/03	EPA 7421	
C1-1 (B310298-12) Soil Sampled: 10/14/03 13:30 Received: 10/15/03 12:15									
Chromium	ND	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	
Lead	**0.0281**	0.00500	"	"	"	"	10/17/03	EPA 7421	
C1-2 (B310298-13) Soil Sampled: 10/14/03 13:35 Received: 10/15/03 12:15									
Chromium	ND	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	
Lead	**0.0103**	0.00500	"	"	"	"	10/17/03	EPA 7421	
B1-1 (B310298-14) Soil Sampled: 10/14/03 13:40 Received: 10/15/03 12:15									
Chromium	ND	0.0100	mg/l	1	3100442	10/17/03	10/20/03	EPA 6010B	
Lead	**0.0139**	0.00500	"	"	"	"	10/17/03	EPA 7421	

Great Lakes Analytical--Buffalo Grove

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago IL, 60601	Project Manager: Anne Troup	11/12/03 14:35

TCLP Metals by EPA 1311/6000/7000 Series Methods

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A1-1 (B310298-15) Soil Sampled: 10/14/03 13:50 Received: 10/15/03 12:15									
Chromium	ND	0.0100	mg/l	1	3100442	10/17/03	10/17/03	EPA 6010B	
Lead	**0.0392**	0.00500	"	"	"	"	10/17/03	EPA 7421	

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Volatile Organic Compounds by EPA Method 8260B

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
W-1 (B310298-16) Water Sampled: 10/14/03 14:10 Received: 10/15/03 12:15									
Acetone	ND UJ	10.0	ug/l	1	3100463	10/17/03	10/17/03	5030B/8260B	
Benzene	ND	2.00	"	"	"	"	"	"	
Bromodichloromethane	ND	2.00	"	"	"	"	"	"	
Bromoform	ND	2.00	"	"	"	"	"	"	
Bromomethane	ND UJ	2.00	"	"	"	"	"	"	
2-Butanone	ND UJ	10.0	"	"	"	"	"	"	
Carbon disulfide	ND UJ	2.00	"	"	"	"	"	"	
Carbon tetrachloride	ND UJ	2.00	"	"	"	"	"	"	
Chlorobenzene	ND	2.00	"	"	"	"	"	"	
Chlorodibromomethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	ND UJ	2.00	"	"	"	"	"	"	
Chloroform	ND	2.00	"	"	"	"	"	"	
Chloromethane	ND	2.00	"	"	"	"	"	"	
1,1-Dichloroethane	ND	2.00	"	"	"	"	"	"	
1,2-Dichloroethane	ND	2.00	"	"	"	"	"	"	
1,1-Dichloroethene	ND	2.00	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	2.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	2.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	2.00	"	"	"	"	"	"	
1,3-Dichloropropene (cis + trans)	ND UJ	2.00	"	"	"	"	"	"	
Ethylbenzene	ND	2.00	"	"	"	"	"	"	
2-Hexanone	ND UJ	10.0	"	"	"	"	"	"	
Methylene chloride	ND UJ	2.00	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND UJ	10.0	"	"	"	"	"	"	
Styrene	**3.09**	2.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	2.00	"	"	"	"	"	"	
Tetrachloroethene	ND	2.00	"	"	"	"	"	"	
Toluene	**2.21**	2.00	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	2.00	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	2.00	"	"	"	"	"	"	
Trichloroethene	ND	2.00	"	"	"	"	"	"	
Trichlorofluoromethane	ND	2.00	"	"	"	"	"	"	
Vinyl acetate	ND UJ	2.00	"	"	"	"	"	"	
Vinyl chloride	ND	2.00	"	"	"	"	"	"	
Total Xylenes	ND	4.00	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*106 %*	*75.8-127*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*98.4 %*	*62.5-145*		"	"	"	"	
Surrogate: Toluene-d8		*95.6 %*	*76.6-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.6 %*	*68.9-123*		"	"	"	"	

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24 Nov 03

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Volatile Organic Compounds by EPA Method 8260B

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
W-2 (B310298-17) Water Sampled: 10/14/03 14:15 Received: 10/15/03 12:15									
Acetone	ND UJ	10.0	ug/l	1	3100463	10/17/03	10/17/03	5030B/8260B	
Benzene	ND	2.00	"	"	"	"	"	"	
Bromodichloromethane	ND	2.00	"	"	"	"	"	"	
Bromoform	ND	2.00	"	"	"	"	"	"	
Bromomethane	ND UJ	2.00	"	"	"	"	"	"	
2-Butanone	ND UJ	10.0	"	"	"	"	"	"	
Carbon disulfide	ND UJ	2.00	"	"	"	"	"	"	
Carbon tetrachloride	ND UJ	2.00	"	"	"	"	"	"	
Chlorobenzene	ND	2.00	"	"	"	"	"	"	
Chlorodibromomethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	ND UJ	2.00	"	"	"	"	"	"	
Chloroform	ND	2.00	"	"	"	"	"	"	
Chloromethane	ND	2.00	"	"	"	"	"	"	
1,1-Dichloroethane	ND	2.00	"	"	"	"	"	"	
1,2-Dichloroethane	ND	2.00	"	"	"	"	"	"	
1,1-Dichloroethene	ND	2.00	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	2.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	2.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	2.00	"	"	"	"	"	"	
1,3-Dichloropropene (cis + trans)	ND UJ	2.00	"	"	"	"	"	"	
Ethylbenzene	ND	2.00	"	"	"	"	"	"	
2-Hexanone	ND UJ	10.0	"	"	"	"	"	"	
Methylene chloride	ND UJ	2.00	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND UJ	10.0	"	"	"	"	"	"	
Styrene	**3.24**	2.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	2.00	"	"	"	"	"	"	
Tetrachloroethene	ND	2.00	"	"	"	"	"	"	
Toluene	**2.42**	2.00	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	2.00	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	2.00	"	"	"	"	"	"	
Trichloroethene	ND	2.00	"	"	"	"	"	"	
Trichlorofluoromethane	ND	2.00	"	"	"	"	"	"	
Vinyl acetate	ND UJ	2.00	"	"	"	"	"	"	
Vinyl chloride	ND	2.00	"	"	"	"	"	"	
Total Xylenes	ND	4.00	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*108 %*	*75.8-127*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	HWG	*99.8 %*	*62.5-145*		"	"	"	"	
Surrogate: Toluene-d8		*95.6 %*	*76.6-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.4 %*	*68.9-123*		"	"	"	"	

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Great Lakes Analytical--Buffalo Grove

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Andy Johnson

Andy Johnson, Project Manager

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Volatile Organic Compounds by EPA Method 5035/8260B

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A2-HA6 (B310298-01) Soil Sampled: 10/14/03 10:50 Received: 10/15/03 12:15									**O2**
Acetone	**3590** J	36.9	ug/kg dry	1	3100431	10/16/03	10/17/03	5035/8260B	A-01, E
Benzene	ND	7.39	"	"	"	"	"	"	
Bromodichloromethane	ND	7.39	"	"	"	"	"	"	
Bromoform	ND	7.39	"	"	"	"	"	"	
Bromomethane	ND UJ	7.39	"	"	"	"	"	"	
2-Butanone	**751** J	14.8	"	"	"	"	"	"	A
Carbon disulfide	**13.3** J	7.39	"	"	"	"	"	"	
Carbon tetrachloride	ND UJ	7.39	"	"	"	"	"	"	
Chlorobenzene	ND UJ	7.39	"	"	"	"	"	"	
Chlorodibromomethane	ND	7.39	"	"	"	"	"	"	
Chloroethane	ND UJ	7.39	"	"	"	"	"	"	
Chloroform	ND	7.39	"	"	"	"	"	"	
Chloromethane	ND UJ	7.39	"	"	"	"	"	"	
1,1-Dichloroethane	ND	7.39	"	"	"	"	"	"	
1,2-Dichloroethane	ND	7.39	"	"	"	"	"	"	
1,1-Dichloroethene	ND	7.39	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	7.39	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	7.39	"	"	"	"	"	"	
1,2-Dichloropropane	ND	7.39	"	"	"	"	"	"	
1,3-Dichloropropene (cis + trans)	ND UJ	4.43	"	"	"	"	"	"	
Ethylbenzene	ND UJ	7.39	"	"	"	"	"	"	
2-Hexanone	**22.2** J	14.8	"	"	"	"	"	"	
Methylene chloride	ND UJ	7.39	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND UJ	14.8	"	"	"	"	"	"	
Styrene	ND UJ	7.39	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND UJ	7.39	"	"	"	"	"	"	
Tetrachloroethene	ND UJ	7.39	"	"	"	"	"	"	
Toluene	**7.51** UJ	7.39	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	7.39	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	7.39	"	"	"	"	"	"	
Trichloroethene	ND	7.39	"	"	"	"	"	"	
Trichlorofluoromethane	ND	7.39	"	"	"	"	"	"	
Vinyl acetate	ND UJ	14.8	"	"	"	"	"	"	
Vinyl chloride	ND	7.39	"	"	"	"	"	"	
Total Xylenes	ND UJ	14.8	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*129 %*	*66.4-145*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*131 %*	*59.5-171*		"	"	"	"	
Surrogate: Toluene-d8		*91.3 %*	*64.5-139*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*69.7 %*	*45.8-145*		"	"	"	"	

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Great Lakes Analytical--Buffalo Grove

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Andy Johnson

Andy Johnson, Project Manager

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Volatile Organic Compounds by EPA Method 5035/8260B

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A2-HA6 (B310298-01RE2) Soil Sampled: 10/14/03 10:50 Received: 10/15/03 12:15									
Acetone	ND UJ	1450	ug/kg dry	50	3100431	10/16/03	10/17/03	5035/8260B	
Surrogate: Dibromofluoromethane		*123 %*	*66.4-145*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*113 %*	*59.5-171*		"	"	"	"	
Surrogate: Toluene-d8		*110 %*	*64.5-139*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*45.8-145*		"	"	"	"	
A2-2 (B310298-02) Soil Sampled: 10/14/03 10:55 Received: 10/15/03 12:15									
etone	**2400** J	38.8	ug/kg dry	1	3100431	10/16/03	10/17/03	5035/8260B	A-01, E
nzene	ND	7.77	"	"	"	"	"	"	
Bromodichloromethane	ND	7.77	"	"	"	"	"	"	
Bromoform	ND	7.77	"	"	"	"	"	"	
Bromomethane	ND UJ	7.77	"	"	"	"	"	"	
2-Butanone	**514** J	15.5	"	"	"	"	"	"	A
Carbon disulfide	**14.6** J	7.77	"	"	"	"	"	"	
Carbon tetrachloride	ND UJ	7.77	"	"	"	"	"	"	
Chlorobenzene	ND	7.77	"	"	"	"	"	"	
Chlorodibromomethane	ND	7.77	"	"	"	"	"	"	
Chloroethane	ND UJ	7.77	"	"	"	"	"	"	
Chloroform	ND	7.77	"	"	"	"	"	"	
Chloromethane	ND	7.77	"	"	"	"	"	"	
1,1-Dichloroethane	ND	7.77	"	"	"	"	"	"	
1,2-Dichloroethane	ND	7.77	"	"	"	"	"	"	
1,1-Dichloroethene	ND	7.77	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	7.77	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	7.77	"	"	"	"	"	"	
-Dichloropropane	ND	7.77	"	"	"	"	"	"	
-Dichloropropene (cis + trans)	ND UJ	4.66	"	"	"	"	"	"	
Ethylbenzene	ND	7.77	"	"	"	"	"	"	
2-Hexanone	**21.5** J	15.5	"	"	"	"	"	"	
Methylene chloride	ND UJ	7.77	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND UJ	15.5	"	"	"	"	"	"	
Styrene	ND	7.77	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.77	"	"	"	"	"	"	
Tetrachloroethene	ND	7.77	"	"	"	"	"	"	
Toluene	ND	7.77	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	7.77	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	7.77	"	"	"	"	"	"	
Trichloroethene	ND	7.77	"	"	"	"	"	"	
Trichlorofluoromethane	ND	7.77	"	"	"	"	"	"	
Vinyl acetate	ND UJ	15.5	"	"	"	"	"	"	
Vinyl chloride	ND	7.77	"	"	"	"	"	"	
Total Xylenes	ND	15.5	"	"	"	"	"	"	

Great Lakes Analytical--Buffalo Grove

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Andy Johnson 24 Nov 03

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Volatile Organic Compounds by EPA Method 5035/8260B

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A2-2 (B310298-02) Soil Sampled: 10/14/03 10:55 Received: 10/15/03 12:15									
Surrogate: Dibromofluoromethane		*119 %*	*66.4-145*		*3100431*	*10/16/03*	*10/17/03*	*5035/8260B*	
Surrogate: 1,2-Dichloroethane-d4		*114 %*	*59.5-171*		"	"	"	"	
Surrogate: Toluene-d8		*83.5 %*	*64.5-139*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*69.9 %*	*45.8-145*		"	"	"	"	
A2-2 (B310298-02RE2) Soil Sampled: 10/14/03 10:55 Received: 10/15/03 12:15									
Acetone	ND UJ	1560	ug/kg dry	50	3100431	10/16/03	10/17/03	5035/8260B	
Surrogate: Dibromofluoromethane		*101 %*	*66.4-145*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.4 %*	*59.5-171*		"	"	"	"	
Surrogate: Toluene-d8		*93.9 %*	*64.5-139*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.7 %*	*45.8-145*		"	"	"	"	
B4-1 (B310298-06) Soil Sampled: 10/14/03 11:45 Received: 10/15/03 12:15									
Acetone	**474** J	61.0	ug/kg dry	1	3100431	10/16/03	10/17/03	5035/8260B	A
Benzene	ND	12.2	"	"	"	"	"	"	
Bromodichloromethane	ND	12.2	"	"	"	"	"	"	
Bromoform	ND	12.2	"	"	"	"	"	"	
Bromomethane	ND UJ	12.2	"	"	"	"	"	"	
2-Butanone	ND UJ	24.4	"	"	"	"	"	"	
Carbon disulfide	ND UJ	12.2	"	"	"	"	"	"	
Carbon tetrachloride	ND UJ	12.2	"	"	"	"	"	"	
Chlorobenzene	ND	12.2	"	"	"	"	"	"	
Chlorodibromomethane	ND	12.2	"	"	"	"	"	"	
Chloroethane	ND UJ	12.2	"	"	"	"	10/17/03	"	
Chloroform	ND	12.2	"	"	"	"	10/17/03	"	
Chloromethane	ND	12.2	"	"	"	"	"	"	
1,1-Dichloroethane	ND	12.2	"	"	"	"	"	"	
1,2-Dichloroethane	ND	12.2	"	"	"	"	"	"	
1,1-Dichloroethene	ND	12.2	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	12.2	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	12.2	"	"	"	"	"	"	
1,2-Dichloropropane	ND	12.2	"	"	"	"	"	"	
1,3-Dichloropropene (cis + trans)	ND UJ	7.32	"	"	"	"	10/17/03	"	
Ethylbenzene	ND	12.2	"	"	"	"	10/17/03	"	
2-Hexanone	ND UJ	24.4	"	"	"	"	"	"	
Methylene chloride	ND UJ	12.2	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND UJ	24.4	"	"	"	"	"	"	
Styrene	ND	12.2	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	12.2	"	"	"	"	"	"	
Tetrachloroethene	ND	12.2	"	"	"	"	"	"	
Toluene	**128**	12.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	12.2	"	"	"	"	"	"	

Great Lakes Analytical--Buffalo Grove

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Andy Johnson 24 Nov 03

Andy Johnson, Project Manager

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Volatile Organic Compounds by EPA Method 5035/8260B

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B4-1 (B310298-06) Soil Sampled: 10/14/03 11:45 Received: 10/15/03 12:15									
1,1,2-Trichloroethane	ND	12.2	ug/kg dry	1	3100431	10/16/03	10/17/03	5035/8260B	
Trichloroethene	ND	12.2	"	"	"	"	"	"	
Trichlorofluoromethane	ND	12.2	"	"	"	"	"	"	
Vinyl acetate	ND UJ	24.4	"	"	"	"	"	"	
Vinyl chloride	ND	12.2	"	"	"	"	"	"	
Total Xylenes	ND	24.4	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*105 %*	*66.4-145*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*85.2 %*	*59.5-171*		"	"	"	"	
Surrogate: Toluene-d8		*92.6 %*	*64.5-139*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*67.4 %*	*45.8-145*		"	"	"	"	
B3-1 (B310298-08) Soil Sampled: 10/14/03 12:40 Received: 10/15/03 12:15									**O2**
Acetone	**427** J	89.4	ug/kg dry	1	3100431	10/16/03	10/17/03	5035/8260B	A
Benzene	ND	17.9	"	"	"	"	"	"	
Bromodichloromethane	ND	17.9	"	"	"	"	"	"	
Bromoform	ND	17.9	"	"	"	"	"	"	
Bromomethane	ND UJ	17.9	"	"	"	"	"	"	
2-Butanone	ND UJ	35.8	"	"	"	"	"	"	
Carbon disulfide	ND UJ	17.9	"	"	"	"	"	"	
Carbon tetrachloride	ND UJ	17.9	"	"	"	"	"	"	
Chlorobenzene	ND UJ	17.9	"	"	"	"	"	"	
Chlorodibromomethane	ND	17.9	"	"	"	"	"	"	
Chloroethane	ND UJ	17.9	"	"	"	"	"	"	
Chloroform	ND	17.9	"	"	"	"	"	"	
Chloromethane	ND	17.9	"	"	"	"	"	"	
1-Dichloroethane	ND	17.9	"	"	"	"	"	"	
1,2-Dichloroethane	ND	17.9	"	"	"	"	"	"	
1,1-Dichloroethene	ND	17.9	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	17.9	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	17.9	"	"	"	"	"	"	
1,2-Dichloropropane	ND	17.9	"	"	"	"	"	"	
1,3-Dichloropropene (cis + trans)	ND UJ	10.7	"	"	"	"	"	"	
Ethylbenzene	ND UJ	17.9	"	"	"	"	"	"	
2-Hexanone	ND UJ	35.8	"	"	"	"	"	"	
Methylene chloride	ND UJ	17.9	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND UJ	35.8	"	"	"	"	"	"	
Styrene	ND UJ	17.9	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND UJ	17.9	"	"	"	"	"	"	
Tetrachloroethene	ND UJ	17.9	"	"	"	"	"	"	
Toluene	ND UJ	17.9	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	17.9	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	17.9	"	"	"	"	"	"	

Great Lakes Analytical--Buffalo Grove

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Andy Johnson 24Nov03

Andy Johnson, Project Manager

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Volatile Organic Compounds by EPA Method 5035/8260B

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B3-1 (B310298-08) Soil Sampled: 10/14/03 12:40 Received: 10/15/03 12:15									**O2**
Trichloroethene	ND	17.9	ug/kg dry	1	3100431	10/16/03	10/17/03	5035/8260B	
Trichlorofluoromethane	ND	17.9	"	"	"	"	"	"	
Vinyl acetate	ND UJ	35.8	"	"	"	"	"	"	
Vinyl chloride	ND	17.9	"	"	"	"	"	"	
Total Xylenes	ND UJ	35.8	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*116 %*	*66.4-145*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*117 %*	*59.5-171*		"	"	"	"	
Surrogate: Toluene-d8		*93.3 %*	*64.5-139*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*70.4 %*	*45.8-145*		"	"	"	"	
A1-1 (B310298-15) Soil Sampled: 10/14/03 13:50 Received: 10/15/03 12:15									**O2**
Acetone	49.8 J	16.9	ug/kg dry	1	3100431	10/16/03	10/17/03	5035/8260B	A
Benzene	ND UJ	3.38	"	"	"	"	10/20/03	"	
Bromodichloromethane	ND	3.38	"	"	"	"	10/17/03	"	
Bromoform	ND	3.38	"	"	"	"	"	"	
Bromomethane	ND	3.38	"	"	"	"	"	"	
2-Butanone	ND	6.76	"	"	"	"	"	"	
Carbon disulfide	ND	3.38	"	"	"	"	"	"	
Carbon tetrachloride	ND	3.38	"	"	"	"	"	"	
Chlorobenzene	ND	3.38	"	"	"	"	"	"	
Chlorodibromomethane	ND	3.38	"	"	"	"	"	"	
Chloroethane	ND	3.38	"	"	"	"	"	"	
Chloroform	ND	3.38	"	"	"	"	"	"	
Chloromethane	ND	3.38	"	"	"	"	"	"	
1,1-Dichloroethane	ND	3.38	"	"	"	"	"	"	
1,2-Dichloroethane	ND	3.38	"	"	"	"	"	"	
1,1-Dichloroethene	ND	3.38	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	3.38	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	3.38	"	"	"	"	"	"	
1,2-Dichloropropane	ND	3.38	"	"	"	"	"	"	
1,3-Dichloropropene (cis + trans)	ND	2.03	"	"	"	"	"	"	
Ethylbenzene	ND	3.38	"	"	"	"	"	"	
2-Hexanone	ND	6.76	"	"	"	"	"	"	
Methylene chloride	ND	3.38	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	6.76	"	"	"	"	"	"	
Styrene	ND	3.38	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	3.38	"	"	"	"	"	"	
Tetrachloroethene	ND	3.38	"	"	"	"	"	"	
Toluene	ND	3.38	"	"	"	"	10/20/03	"	
1,1,1-Trichloroethane	ND	3.38	"	"	"	"	10/17/03	"	
1,1,2-Trichloroethane	ND	3.38	"	"	"	"	"	"	
Trichloroethene	ND UJ	3.38	"	"	"	"	"	"	

Great Lakes Analytical--Buffalo Grove

Andy Johnson

1 HVE
24 Nov 03

Andy Johnson, Project Manager

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GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Volatile Organic Compounds by EPA Method 5035/8260B

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A1-1 (B310298-15) Soil Sampled: 10/14/03 13:50 Received: 10/15/03 12:15									**O2**
Trichlorofluoromethane	ND	3.38	ug/kg dry	1	3100431	10/16/03	10/17/03	5035/8260B	
Vinyl acetate	ND	6.76	"	"	"	"	"	"	
Vinyl chloride	ND	3.38	"	"	"	"	"	"	
Total Xylenes	ND	6.76	"	"	"	"	10/20/03	"	
Surrogate: Dibromofluoromethane		*120 %*	*66.4-145*		"	"	*10/17/03*	"	
Surrogate: 1,2-Dichloroethane-d4		*133 %*	*59.5-171*		"	"	"	"	
Surrogate: Toluene-d8		*98.5 %*	*64.5-139*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*66.3 %*	*45.8-145*		"	"	"	"	

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24 Nov 03

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200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Percent Solids

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A2-HA6 (B310298-01) Soil Sampled: 10/14/03 10:50 Received: 10/15/03 12:15									
% Solids	**86.1**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
A2-2 (B310298-02) Soil Sampled: 10/14/03 10:55 Received: 10/15/03 12:15									
% Solids	**80.1**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
A2-3 (B310298-03) Soil Sampled: 10/14/03 11:10 Received: 10/15/03 12:15									
% Solids	**67.3**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
A3-1 (B310298-04) Soil Sampled: 10/14/03 11:20 Received: 10/15/03 12:15									
% Solids	**34.3**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
A4-1 (B310298-05) Soil Sampled: 10/14/03 11:35 Received: 10/15/03 12:15									
% Solids	**34.7**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
B4-1 (B310298-06) Soil Sampled: 10/14/03 11:45 Received: 10/15/03 12:15									
% Solids	**22.8**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
C4-1 (B310298-07) Soil Sampled: 10/14/03 12:20 Received: 10/15/03 12:15									
% Solids	**50.7**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
B3-1 (B310298-08) Soil Sampled: 10/14/03 12:40 Received: 10/15/03 12:15									
% Solids	**19.7**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
C3-1 (B310298-09) Soil Sampled: 10/14/03 13:00 Received: 10/15/03 12:15									
% Solids	**14.5**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	

Great Lakes Analytical--Buffalo Grove

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Andy Johnson

Andy Johnson, Project Manager

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Percent Solids

Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C2-1 (B310298-10) Soil Sampled: 10/14/03 13:20 Received: 10/15/03 12:15									
% Solids	**24.0**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
B2-1 (B310298-11) Soil Sampled: 10/14/03 13:25 Received: 10/15/03 12:15									
% Solids	**16.5**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
C1-1 (B310298-12) Soil Sampled: 10/14/03 13:30 Received: 10/15/03 12:15									
% Solids	**20.8**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
-2 (B310298-13) Soil Sampled: 10/14/03 13:35 Received: 10/15/03 12:15									
% Solids	**29.2**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
B1-1 (B310298-14) Soil Sampled: 10/14/03 13:40 Received: 10/15/03 12:15									
% Solids	**18.9**	0.200	%	1	3100419	10/16/03	10/17/03	EPA 5035 7.5	
A1-1 (B310298-15) Soil Sampled: 10/14/03 13:50 Received: 10/15/03 12:15									
% Solids	**65.1**	0.200	%	1	3100448	10/17/03	10/20/03	EPA 5035 7.5	

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Tetra Tech EMI - IL	Project: Spies Field/USEPA	
200 E. Randolph Suite 4700	Project Number: S05-0309-011	**Reported:**
Chicago, IL 60601	Project Manager: Anne Troup	10/24/03 10:14

Notes and Definitions

A	The concentration of the analyte detected in the sample is characteristic of a laboratory artifact.
A-01	The samples solvated in sodium bisulfate do not confirm with the results when solvated in methanol.
E	This result is estimated. The analysis gave a final result that is above the calibration range.
G13	The recovery of this analyte in the check standard is below the method specified acceptance criteria.
O2	One or more internal standard recoveries were below the method specified acceptance criteria.
QC	The result for one or more quality control measurements associated with this sample did not meet the laboratory and/or source method acceptance criteria.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
L	This quality control measurement is below the laboratory established limit.
H	This quality control measurement is above the laboratory established limit.

Great Lakes Analytical--Buffalo Grove Wisconsin DNR Certification Lab ID: 999917160

Great Lakes Analytical--Buffalo Grove NELAP Primary Accreditation: Illinois #100261

Great Lakes Analytical--Buffalo Grove NELAP Secondary Accreditation: New Jersey #IL001

Great Lakes Analytical--Oak Creek, WI Wisconsin DNR Certification Lab ID: 341000330

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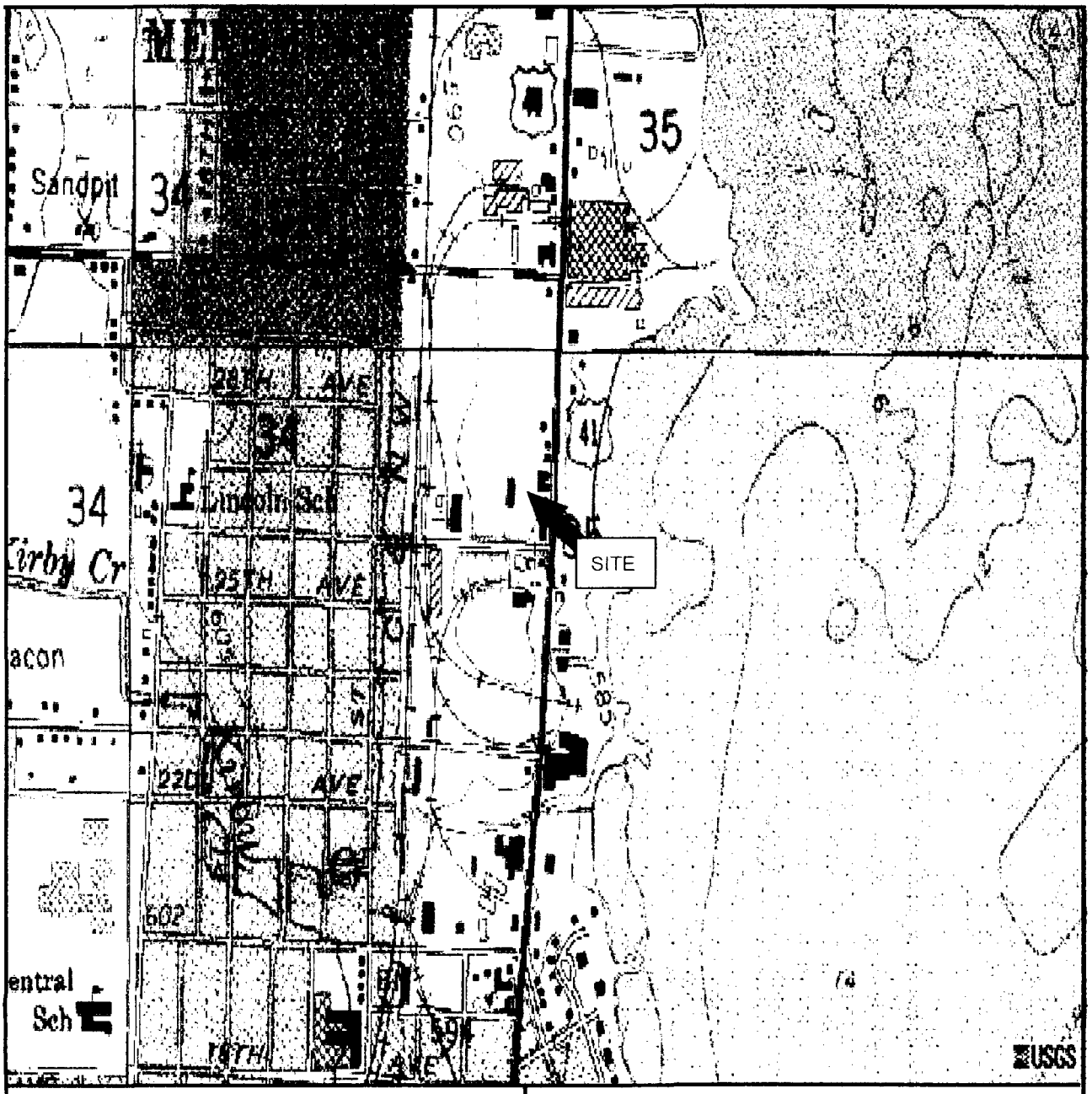
Andy Johnson

Andy Johnson, Project Manager

ATTACHMENT C

FIGURES

(2 sheets)



0 .25Mi

NORTH

Source: Modified from TerraServer, USGS Topographic Map for Menominee, Michigan, 1976

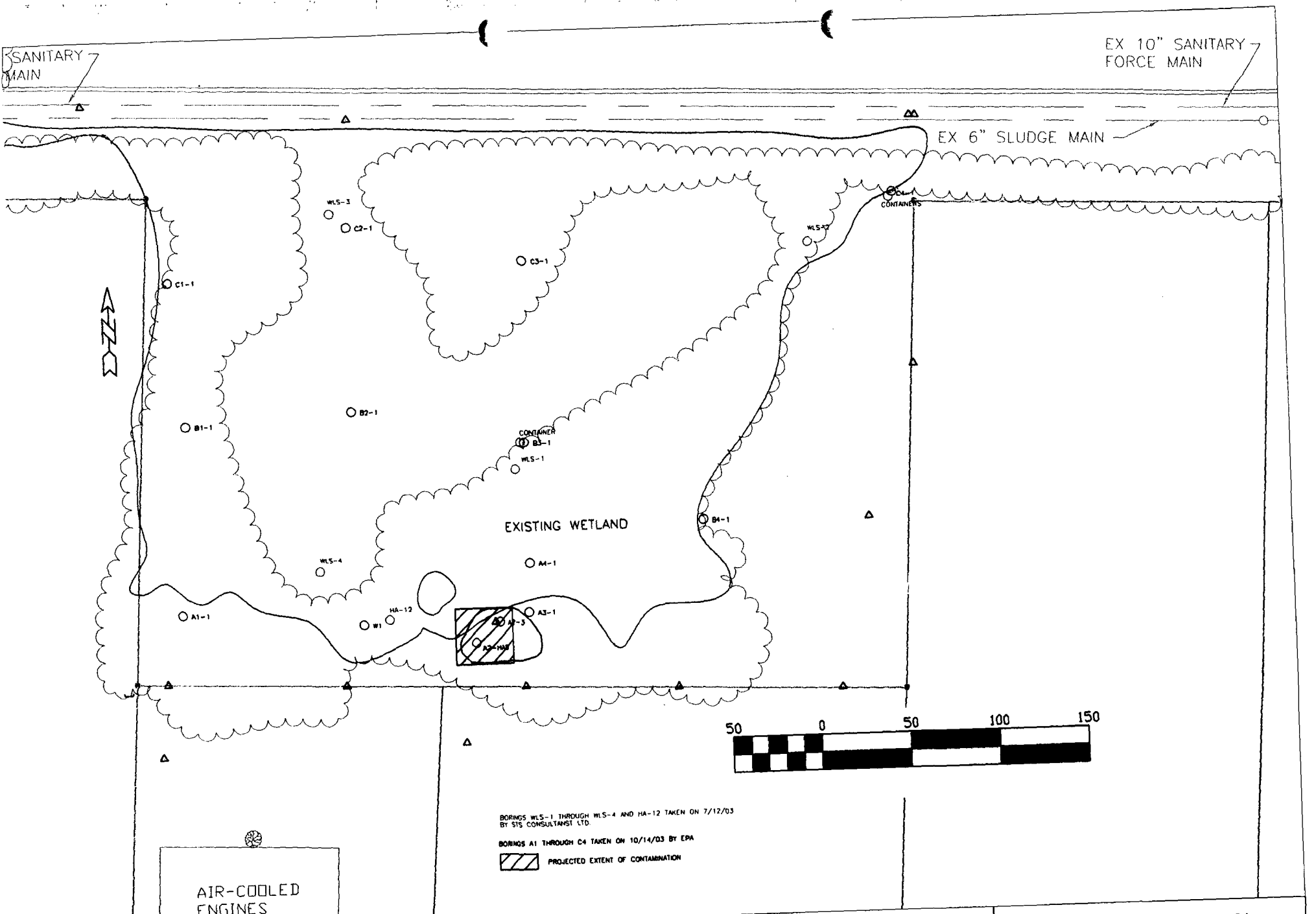
SPIES FIELD SITE
MENOMINEE, MICHIGAN

TDD No. S05-0309-010

FIGURE 1

SITE LOCATION MAP

T N & Associates, Inc.
Engineering and Science



TN & A Engineering and Science — TN & Associates, Inc.

SPIES FIELD SITE
MENOMINEE, MICHIGAN
TDD NO. S05-0309-010

FIGURE 2
SAMPLING LOCATION MAP

Source: Modified from City of Menominee Engineering Map